

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An inspection method for an exposure apparatus for illuminating a photomask disposed on a first installation member by an illumination optical system, and for projecting an image of a pattern of the photomask onto a substrate disposed on a second installation member through a projection optical system, the inspection method comprising:

disposing an inspection photosensitive substrate as the substrate on the second installation member;

illuminating a first region on the inspection photosensitive substrate which does not include a pupil end of the projection optical system and illuminating a second region on the inspection photosensitive substrate which includes the pupil end of the projection optical system and which is not overlapped with the first region before illuminating the first region or after illuminating the first region, in a state in which a surface of the photosensitive substrate and a surface of a secondary light source of the illumination optical system are optically conjugate with each other; and

inspecting ~~an illumination axis offset of the exposure apparatus based on a~~ pattern obtained by developing the photosensitive substrate; and

determining an illumination axis offset of the exposure apparatus based on the pattern.

2. (Original) The exposure apparatus inspection method according to claim 1, wherein the state in which the surface of the photosensitive substrate and the surface of the secondary light source of the illumination optical system are optically conjugate with each other is formed by providing a pattern member comprising a pattern formed on a surface between the illumination optical system and the projection optical system or between the projection optical system and the photosensitive substrate.

3. (Original) The exposure apparatus inspection method according to claim 2, wherein the pattern member is an inspection photomask comprising a surface on which a pattern is formed, and the inspection photomask is provided on the first installation member so that the surface of the inspection photomask is not optically conjugate with the surface of the projection substrate.

4. (Original) The exposure apparatus inspection method according to claim 3, wherein the pattern of the inspection photomask includes a circular pattern transparent relative to an exposure light.

5. (Original) The exposure apparatus inspection method according to claim 4, further comprising disposing the inspection photomask on the first installation member while the surface on which the circular pattern is provided is oriented toward the surface of the secondary light source to set the surface on which the circular pattern of the inspection photomask is formed and the surface of the photosensitive substrate not to be optically conjugate with each other.

6. (Original) The exposure apparatus inspection method according to claim 5, wherein a diameter of the circular pattern is 40 μm or more and 80 μm or less.

7. (Original) The exposure apparatus inspection method according to claim 4, wherein the inspection photomask is disposed on the first installation member so that the surface on which the circular pattern is formed is directed toward a pupil of the projection optical system.

8. (Previously Presented) The exposure apparatus inspection method according to claim 7, further comprising controlling a distance between the pupil of the projection optical system and the surface of the photosensitive substrate to set the surface of the inspection photomask on which the circular pattern is formed and the surface of the photosensitive substrate not to be optically conjugate with each other.

9. (Original) The exposure apparatus inspection method according to claim 7, wherein the photosensitive substrate comprises a transparent substrate relative to the exposure light and a reflection film provided on a surface of the substrate opposite to a surface of the substrate on which the exposure light is incident and reflecting the exposure light.

10. (Original) The exposure apparatus inspection method according to claim 7, wherein the diameter of the circular pattern is 1 μm or more and 20 μm or less.

11. (Original) The exposure apparatus inspection method according to claim 1, wherein the photosensitive substrate comprises a silicon wafer, and a photoresist applied onto the silicon wafer.

12. (Original) The exposure apparatus inspection method according to claim 2, wherein the pattern member is a lens member, and the lens member is disposed in an optical path between the surface of the secondary light source of the illumination optical system and the projection optical system or in an optical path between the projection optical system and the photosensitive substrate.

13. (Original) The exposure apparatus inspection method according to claim 1, further comprising setting an illumination shape of the secondary light source in a zonal pattern by illuminating the second region when the photosensitive is exposed.

14. (Previously Presented) The exposure apparatus inspection method according to claim 1, further comprising setting an illumination shape of the secondary light source in a shape which has maximums of brightness in three or more directions when the photosensitive substrate is exposed.

15. (Original) The exposure apparatus inspection method according to claim 13, wherein the illumination shape of the secondary light source on a pupil surface of the projection optical system satisfies an inequality of $NA_{ill} > NA_{in} > NA_{i2}$, where NA_{in} is an

incident-side numerical aperture of the projection optical system, NA_{i1} is an emission-side numerical aperture of the illumination optical system, and NA_{i2} is a value representing an incident angle of a light corresponding to an inner periphery of the secondary light source by a numerical aperture dimension.

16. (Currently Amended) An exposure apparatus comprising:

- a first installation member on which a photomask is disposed;
- an illumination optical system for illuminating a pattern formed on the photomask disposed on the first installation member;
- a second installation member on which a substrate is disposed;
- a projection optical system for projecting ~~the~~ an image of the pattern ~~of~~ formed on the photomask onto the substrate disposed on the second installation member;
- a first lens member arranged into an optical path between a surface of a secondary light source of the illumination optical system and the ~~projection optical system or into an optical path between the projection optical system and the substrate~~ photomask; and
- a second lens member arranged into an optical path between ~~the surface of the secondary light source of the illumination optical system and the first lens member~~ and the substrate, the second lens member being a lens array disposed on a plane perpendicular to the optical path.

17. (Previously Presented) The exposure apparatus according to claim 16, wherein the first lens member is provided at a position away from an upper part of a

surface of the photomask by a predetermined distance in a direction perpendicular to the surface of the photomask or provided at a position away from an upper part of a surface of the substrate by a predetermined distance in a direction perpendicular to the surface of the substrate.

18. (Previously Presented) The exposure apparatus according to claim 17, wherein the predetermined distance is substantially equal to a focal length of the first lens member.

19. (Previously Presented) The exposure apparatus according to claim 16, wherein the first lens member comprises a substrate including a main surface and a plurality of lenses provided on the main surface of the substrate, and disposed so that the main surface of the substrate is parallel to a surface of the photosensitive substrate.

20. (Original) The exposure apparatus according to claim 19, wherein a region of the main surface of the substrate in which the plurality of lenses are not provided shields an exposure light.

21. (Previously Presented) The exposure apparatus according to claim 16, further comprising a retraction member which retracts the first lens member to an outside of an optical path of an exposure light.

22. (Previously Presented) The exposure apparatus according to claim 16,
wherein the first lens member comprises a convex lens.